EXP MAIL: E[redacted]231US 416 Rec'd PCT/PTO 28 FEB 2000

FORM PTO-1390 (Modified) (REV 11-98) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER	RCA88696
U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR	09/486545
INTERNATIONAL APPLICATION NO.	PCT/US98/17570
INTERNATIONAL FILING DATE	25 August 1998
PRIORITY DATE CLAIMED	28 August 1997

TITLE OF INVENTION

SYSTEM AND METHOD FOR NAVIGATING WITHIN A DISPLAY HAVING DIFFERENT DISPLAY SECTIONS

APPLICANT(S) FOR DO/EO/US

Sheila Renee Crosby, Steven Todd Barlow and Robert John Strong

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
   a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
   b. ☒ has been transmitted by the International Bureau.
   c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☐ A copy of the International Search Report (PCT/ISA/210).
8. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
   a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
   b. ☐ have been transmitted by the International Bureau.
   c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
   d. ☐ have not been made and will not be made.
9. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
10. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
11. ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).

Items 13 to 20 below concern document(s) or information included:

13. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☐ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☒ Certificate of Mailing by Express Mail
20. ☒ Other items or information: Return Receipt Postcard

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
09/486545	PCT/US98/17570	RCA88696

21. The following fees are submitted:	CALCULATIONS PTO USE ONLY
BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :	
☐ Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2) paid to USPTO and International Search Report not prepared by the EPO or JPO $970.00	
☒ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but Internation Search Report prepared by the EPO or JPO $840.00	
☐ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO $690.00	
☐ International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) $670.00	
☐ International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) $96.00	
ENTER APPROPRIATE BASIC FEE AMOUNT =	$840.00
Surcharge of **$130.00** for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).	$0.00

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	
Total claims	14 - 20 =	0	x $18.00	$0.00
Independent claims	4 - 3 =	1	x $78.00	$78.00
Multiple Dependent Claims **(check if applicable)**.			☐	$0.00
TOTAL OF ABOVE CALCULATIONS			=	$918.00
Reduction of 1/2 for filing by small entity, if applicable. Verified Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28) **(check if applicable)**.			☐	$0.00
SUBTOTAL			=	$918.00
Processing fee of **$130.00** for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (f)).			+	$0.00
TOTAL NATIONAL FEE			=	$918.00
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) **(check if applicable)**.			☐	$0.00
TOTAL FEES ENCLOSED			=	$918.00
			Amount to be: refunded	$
			charged	$

☐ A check in the amount of to cover the above fees is enclosed.

☒ Please charge my Deposit Account No. **07-0832** in the amount of $918.00 to cover the above fees.
A duplicate copy of this sheet is enclosed.

☒ The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. **07-0832** A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

JOSEPH S. TRIPOLI - PATENT OPERATIONS
THOMSON MULTIMEDIA LICENSING, INC.
PO BOX 5312 - 2 INDEPENDENCE WAY
PRINCETON, NJ 08543-5312

SIGNATURE

Frank Y. Liao
NAME

40,065
REGISTRATION NUMBER

2/28/00
DATE

SYSTEM AND METHOD FOR NAVIGATING WITHIN A DISPLAY HAVING DIFFERENT DISPLAY SECTIONS

Field of Invention

The present invention relates to a system and method of providing a user interface for allowing a computer user to navigate through a plurality of electronic information sources, and in particular to a user interface for navigating through information sources in an electronic on-line environment, such as the Internet, using a display comprising a plurality of separate sections.

Background

User interface for allowing a user to navigate through electronic information sources and on-line services are known in the art, i.e. web browsers for navigating through the Internet. In such a user interface, a user typically manipulates the position of a cursor on a display screen and selects icons or symbols displayed thereon to manipulate the displayed data or link to another information source, or web page.

To provide additional flexibility and ease for the user, a user interface may divide a single display into a plurality of independent frames wherein each frame is associated with a different information source. For Internet applications, each frame may be associated with a different data source. As such, a user may change the contents of a particular frame and link to other data sources from that frame independently of the other frames. Similarly, each section of a display or screen may correspond to a different web page, displaying different information from different web sites.

From a user interface perspective, the use of sections, for example, frames can be problematic. The user must be able to move the cursor from frame to frame. However, there is no embedded control allowing the cursor to jump from frame to frame. This is not

an issue when a mouse, trackball or other similar devices are used, as such devices allow the user to move the cursor freely across frame borders.

However, a problem arises when the system does not include or provide for such devices. For example, such a situation may arise in an arrangement wherein a standard television is used for browsing the Internet and the associated support system does not provide for a cursor which can move freely across the display screen. In that case, the user must use direction arrows and a selection button, or other similar devices, on a remote control device in order to select icons or symbols in a frame and move from frame to frame.

One solution to this problem is to provide a keyboard wherein a particular keystroke combination moves the cursor between frames, i.e. CTRL+arrow key. However, this requires the user to either memorize a number of keystroke combinations, which the user may find difficult to remember, or keep referring to instruction notes during operation. Further, this solution cannot be used if the user must rely entirely on a remote control device.

Another solution is to force the user to scroll through an entire frame, i.e. to the top or bottom edges of the frame, in order to move to the next frame. However, from a user's point of view, having to scroll through an entire frame can quickly become tedious and unacceptable. In addition, the contents of a frame may be lengthy and the user may run out of patience from reaching the end of the frame.

In another example, EP-A-0773-495, discloses a known user interface system having a display with one or more display sections. In particular, one of the display sections has a navigational symbol on a border of the display section. However, the symbol is merely used to scroll the content of the window up and down and not for other navigational purposes.

2a

~~2T~~ 2a

SUMMARY OF INVENTION

Therefore, what is needed is a user interface which allows a user to quickly and easily navigate within and between a plurality of sections on a single display screen, using a remote control device.

The present invention involves a user interface that allows a user to quickly and easily navigate within and between a plurality of sections or frames on a single display screen. In one embodiment, a user selects a highlighted icon and/or button to manipulate the data in a particular frame or one of a plurality of control arrows shown on the borders between the frames to move from one frame to another. A user controls the position of the highlight by pressing one of a plurality of direction buttons on a remote control device and selects an icon or a control arrow by pressing a selection button on the remote control device.

Therefore, a system and a method for navigating within a display having one or more display sections are disclosed, the system comprising:

means for selecting a section of said display; and

control means, in response to said selection, for displaying a navigational symbol on a border of said selected section, said symbol corresponding to a direction in which a highlight may be moved.

In one embodiment of the invention, the control means, in response to a selection of said symbol on said border, moves said highlight in said corresponding direction. In another embodiment, said symbol indicates an availability of an adjacent section in said corresponding direction.

The present invention may advantageously be used in arrangements wherein a standard home television is connected to the Internet using appropriate support equipment but the system does not include or provide for a cursor which can freely move across the frames on the display screen.

BRIEF DESCRIPTION OF DRAWINGS

The invention will be described with reference to the accompanying drawings, wherein:

Figs. 1A - 1C are representations of a display screen having a plurality of sections, with a first section as being active.

Fig. 2 shows a display screen having a second area as being active.

Fig. 3 is a simplified block diagram of an apparatus for implementing the present user interface;

Figs. 4-8 are flow chart diagrams showing the steps taken by the present user interface; and

Fig. 9 is a top plan view of a remote control device suitable for use with the present user interface.

DETAILED DESCRIPTION OF DRAWINGS

Referring to Figs. 1A - 1C, and Fig. 2, there are shown representations of display screen 10 divided into a plurality of sections or frames 15, 16, 17, 18, 19 and 20. Such a display is suitable for presenting information from a plurality of different information sources at one time. In Internet applications, each frame may be associated with different information and may be manipulated independently of the other frames. This type of display may be provided on a computer monitor or a standard television monitor using appropriate support equipment and software, including, but not limited to the N/C 100 system provided by Thomson Consumer Electronics, Inc. of Indianapolis, Indiana.

A simplified block diagram of a suitable apparatus for providing a display in accordance with the present invention is shown in Fig. 3. Apparatus for electronically connecting a display terminal to various

electronic information sources are known in the art and will not be discussed in detail here. As shown in Fig. 3, the suitable apparatus 20 comprises a controller, CPU 26, which receives the commands from a user and performs the steps necessary to provide a display on television or computer display 34, as shown in Figs. 4-8, to be discussed below. Typically, user input is provided through a user entry device such as a remote control or keyboard 22 which sends a signal to IR signal decoder 24 operatively connected to CPU 26. CPU 26 is also connected to a network computer or other on line data sources through communications interface unit 29 to send and receive data therethrough. CPU 26 also accesses ROM 28 which stores the data for generating the display and highlighting graphic elements and RAM 32 which stores HTML page data received through interface unit 29. Upon receiving a user command, CPU 26 accesses the data in ROM 28 and RAM 32, and provides an output to video signal processor 30 which generates signals to control display 34. In a system which uses a standard television monitor, tuner 25 and IF processor 27 are also connected to video signal processor 30 to provide a baseband video signal representing the video portion of a tuned television signal.

In the present arrangement wherein a remote control device 22 is used to select the icons or the symbols on the display, highlighting methods are used to indicate to the user which icon or symbol is currently available for selection. An icon or a symbol may be highlighted by changing the appearance of the icon or the symbol, for example by changing the size and/or color of the icon or symbol. In our exemplary embodiment, as shown in Fig. 1A, for example, an icon 3 is shown as being highlighted by having a background box surrounding it. The highlighting may be thought of as a background cursor which can only move to certain locations on the display and changes the appearance of the icon or symbol over which it is placed.

Upon highlighting the desired icon or symbol, the user can select the highlighted icon or symbol using the appropriate select button on the remote control device in order to change the display in some manner. Thus, the present invention allows a user to easily and quickly navigate within and between the various frames by moving the position of a highlight and selecting the highlighted icon or symbol using a remote control device.

A suitable user entry or a remote control device 5 is shown in Fig. 9. As shown in Fig. 9, remote control device 5 includes direction buttons 6, 7, 8, 9, which correspond to up, down, left and right directions, respectively, for moving the position of the highlight. For example, pressing up button 6 will cause the icon or symbol nearest and above the currently highlighted icon or symbol to become highlighted indicating that it is now available for selection. Remote control device 5 also includes OK button 6a for selecting the highlighted icon or symbol. Suitable remote control devices include, but are not limited to, CRK93H1 manufactured by Thomson Consumer Electronics, Inc. of Indianapolis, Indiana and adapted for use with the N/C 100 system. Therefore, using remote control device 5 in the manner described above, a user can easily and quickly move the highlighting within a frame and select the highlighted icons as desired thereby easily navigating within a particular frame.

For example, as shown in Fig. 1A, an icon 3 is initially highlighted as shown by a background box surrounding the icon. An icon may be a symbol or text string which has a related HTML link or the like. Since the highlighted icon 3 is in section 15, section 15 is the active area in which a user can move from one icon to another using the direction buttons 6, 7, 8, 9 on the user entry control 5. For example, if icon 3 is currently being highlighted as shown in Fig. 1A,

and a user pushes the down button 7 on the remote control, icon 4 will become highlighted as shown in Fig. 1B.

Navigation between frames is now discussed. In Figs. 1A and 1B, frame 15 is active (i.e., selected) and the remaining frames are inactive, as discussed above. That is, the user can manipulate the information provided to frame 15 by using remote control device 5 to select the icons within frame 15. The user may select which frame is active using remote control device 5 to highlight and select navigation controls in the form of, for example, control arrow symbols 12 and 13 shown in the frame borders 15r and 15b as described further below.

In the present user interface, navigation controls are embedded into borders surrounding an active frame such that a user can navigate between the frames using arrow buttons 6-9 and "OK" button 6a on remote control device 5. For example, directional symbols 12 and 13 appear as arrows in the borders 15r and 15b between frames 15 and 17 and 15 and 16, respectively, and may be highlighted and selected in the same manner as the icons. In other words, the highlight is moved between the icons and the arrows using direction buttons 6-9 and the icons and arrows may be selected using OK button 6a.

Highlighting and selecting a control arrow (e.g., 12 or 13) on the border will also cause the user interface to scroll the contents of the frame in the direction of the arrow. However, if the control arrow is selected after the frame contents have reached the edge of the respective border in the direction of the arrow, the user interface will switch the highlight to the nearest icon or symbol inside the next frame to which the arrow is pointing. In this manner, the adjacent frame becomes active. For example, in Fig. 1A, when arrow 12 is highlighted after the contents of frame 15 have been scrolled to the rightmost edge and the user presses OK button 6a, frame 17 becomes

active and frame 15 becomes inactive. Similarly, when arrow 13 is highlighted after the contents of frame 15 have been scrolled to the bottom edge and OK button 6a is pressed, frame 16 becomes active and frame 15 becomes inactive as shown in Fig. 2. Once a new frame 16 becomes active, arrows 13a and 14a appear on the borders around the newly activated frame 16 to allow the user to select and activate frames adjacent the newly activated frame 16 as desired.

The steps for navigating between the frames and the links within the frames are illustrated in Figs. 4-8. The steps indicated in Figs. 4-8 may be implemented using a software routine that, when executed by CPU 26 in Fig. 3, controls the system shown in Fig. 3 to provide the described features. As shown in Fig. 4, the user interface initially draws the frames and shows the control arrows which may be selected. First, the HTML page is loaded in step 40. If the HTML page uses frames and the frames use borders as indicated in steps 42 and 44, the user interface select or gives focus to the frame containing the default link in step 46 then draws the frame borders and frame controls. As indicated in steps 46-50, 52-56, 58-62, and 64-68, the user interface draws a control arrow on the borders which are adjacent to another frame. For example, in Fig. 1, control arrows 12 and 13 are drawn on the right and bottom border portions 15r and 15b, respectively. After drawing the frame borders and frame controls, the user interface waits for and responds to user input as indicated in step 70.

Figs. 5-8, indicate the steps taken when the user presses the up, down, right and down direction buttons 6-9, respectively, on remote control device 5. As the steps in each of Figs. 5-8 are similar, only Fig. 6 will be discussed in detail. However, it is to be understood that the discussion below is applicable to the remaining figures.

As discussed above, Fig. 1A shows area 15 has been selected to be an active area. When a user then presses down button 7 in step 90 of Fig. 6, the user interface first decides whether the highlight is on a link or on a control arrow as indicated in step 92. If the highlight is on a link, such as icon 3 as shown in Fig. 1A, the user interface must decide whether there is a visible link below the active link 3 inside the active frame 15 as indicated in step 94. If there is a visible link 4, the user interface moves the focus to the link below the active link and highlights that link 4 in step 96, as shown in Fig. 1B. If there is no visible link, the user interface moves the highlight to the control arrow 13 shown in the bottom border 15b and goes back to step 98 to await further user input, as shown in Fig. 1C.

If the highlight is on a control arrow as indicated in step 92, the user interface decides in step 92 whether the frame contents continue beyond the bottom border 15b of the frame 15. If the contents continue but are currently hidden from view of a user, the user interface scrolls the frame to display the contents below the bottom border 15b as indicated in step 109 and then waits for further user input when the down button 7 is released. If the frame contents do not continue, the user interface moves the highlight to the next default, i.e. closest, icon or symbol (link) in frame 16 below the bottom border as indicated in step 102 and as shown in Fig. 2. In this manner, the user can move to a new frame when the contents of frame 15 have been scrolled to an edge. As described above, a user can easily and quickly navigate within and between the frames using the direction and selection buttons on remote control device 5. It is to be understood that the present method may be implemented using a number of techniques and/or programming languages known to one of ordinary skill in the art, including, but not limited to visual BASIC, C++ and JAVA.

It will be apparent to those skilled in the art that although the invention has been described in terms of a specific example, modifications and changes may be made to the disclosed embodiment without departing from the essence of the invention. Therefore, it is to be understood that the present invention is intended to cover all modifications which naturally flow from the foregoing example.

REPLACEMENT CLAIMS 1 -14

1. A system for navigating within a display having one or more display sections, comprising:

means for selecting a section of said display;

control means for displaying a navigational symbol on a border of a selected section, said symbol corresponding to a direction in which a highlight may be moved; and

said control means, in response to a selection of said symbol on said border, moves said highlight in said corresponding direction.

2. The system of claim 1 wherein said symbol indicates an availability of an adjacent section in said corresponding direction.

3. The system of claim 1 wherein said different sections of the display represent different frames.

4. The system of claim 1 wherein said different sections of the display represent different web pages.

5. The system of claim 1 wherein said control means moves said highlight in said corresponding direction to another icon in said selected section if another icon exists in said selected section in said corresponding direction.

6. The system of claim 2 wherein said control means moves said highlight in said corresponding direction to another icon in said adjacent section if no other icon exists in said selected section in said corresponding direction.

7. A system for navigating within a display having one or more display sections, comprising:

a user control for selecting a first icon in a selected section of said screen, said user control including a set of directional keys for moving to another icon selection; and

a controller for determining, in response to an entry of one of said directional keys, whether there is a visible icon in said selected section in the direction corresponding to said entered key; and

said controller, in response to said determination, moves said highlight to said visible icon if said visible icon is present and moves said highlight to a navigational control, if said visible icon is not present.

8. The system of claim 7 wherein said controller causes said navigational control to be displayed, if an adjacent section is available in a direction indicated by said navigational control.

9. A method for navigating within a display having one or more display sections, comprising the steps of:

selecting a section of said display;

displaying a navigational symbol on a border of a selected section, said symbol corresponding to a navigable direction of a highlight; and

moving said highlight, in response to a selection of said symbol on said border, in said corresponding direction.

10. The method of claim 9 wherein said symbol indicates an availability of an adjacent section in said corresponding direction.

11. The method of claim 9 wherein said moving step further comprising moving said highlight in said corresponding direction to another icon in said selected section if another icon exists in said selected section in said corresponding direction.

12. The method of claim 10 wherein said moving step further comprising moving said highlight in said corresponding direction to another icon in said

adjacent section if no other icon exists in said selected section in said corresponding direction.

13. A method for navigating within a display having one or more display sections, comprising:

selecting a first icon in a selected section of said display via a user control, said user control including a set of directional keys for moving to another icon selection; and

determining, in response to an entry of one of said directional keys, whether there is a visible icon in said selected section in the direction corresponding to said entered key; and

moving said highlight, in response to said determination, to said visible icon if said visible icon is present and moving said highlight to a navigational control, if said visible icon is not present

14. The method of claim 13 wherein said navigational control is only displayed, if an adjacent section is available in a direction indicated by said navigational control.

15

ABSTRACT

A system and a method for navigating within a display having one or more display sections are disclosed. A section from the one or more display sections is selected. In response to the selection, a navigational symbol is displayed on a border of the selected section, the symbol corresponding to a direction in which a highlight may be moved. In one embodiment, the highlight is moved in the corresponding direction in response to the selection of the symbol. In another embodiment, the symbol indicates an availability of an adjacent section in the corresponding direction.

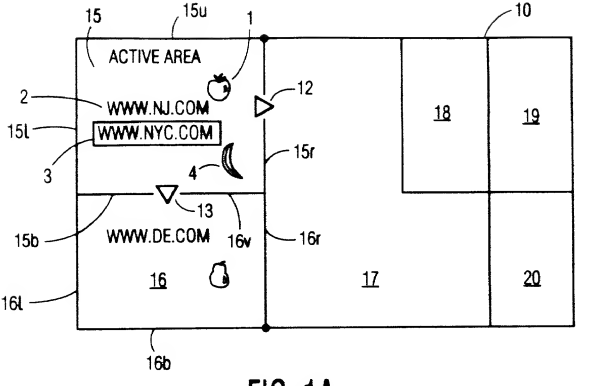
15
15u
1
10
ACTIVE AREA
2
WWW.NJ.COM
12
15l
WWW.NYC.COM
18
19
3
4
15r
13
15b
WWW.DE.COM
16v
16r
16
17
20
16l
16b

FIG. 1A

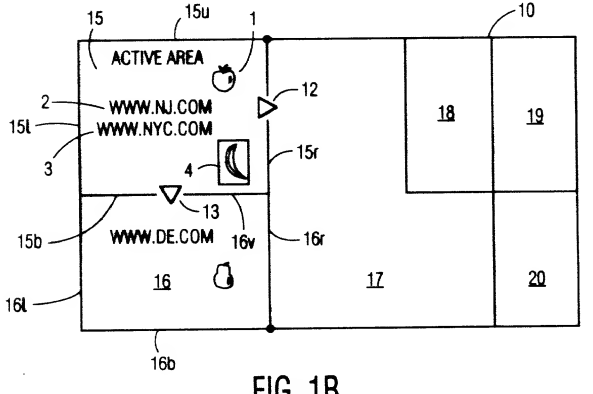
15
15u
1
10
ACTIVE AREA
2
WWW.NJ.COM
12
15l
WWW.NYC.COM
18
19
3
4
15r
13
15b
WWW.DE.COM
16v
16r
16
17
20
16l
16b

FIG. 1B

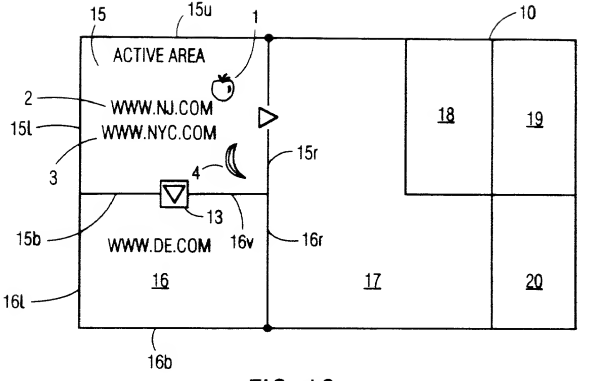
15
15u
1
10
ACTIVE AREA
2
WWW.NJ.COM
15l
WWW.NYC.COM
3
4
15r
18
19
13
15b
WWW.DE.COM
16v
16r
16
17
20
16l
16b

FIG. 1C

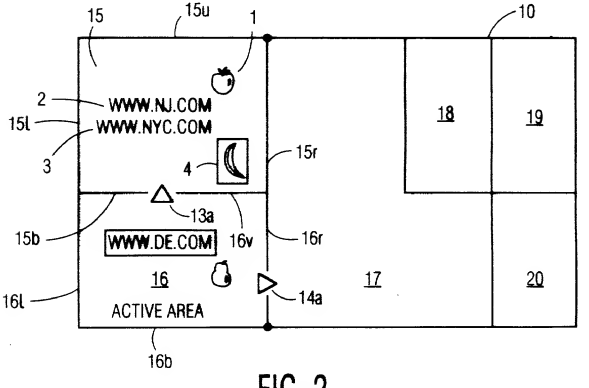
15
15u
1
10
2
WWW.NJ.COM
15l
WWW.NYC.COM
3
4
15r
18
19
13a
15b
WWW.DE.COM
16v
16r
16
17
20
14a
16l
ACTIVE AREA
16b

FIG. 2

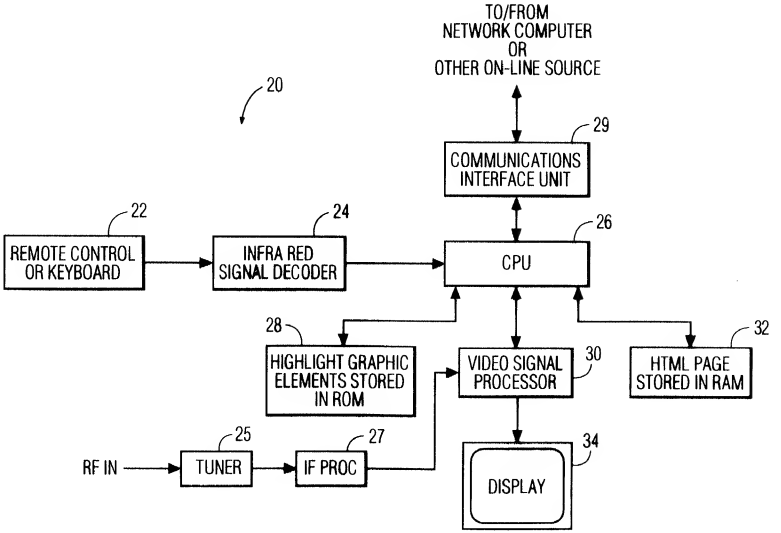

FIG. 3

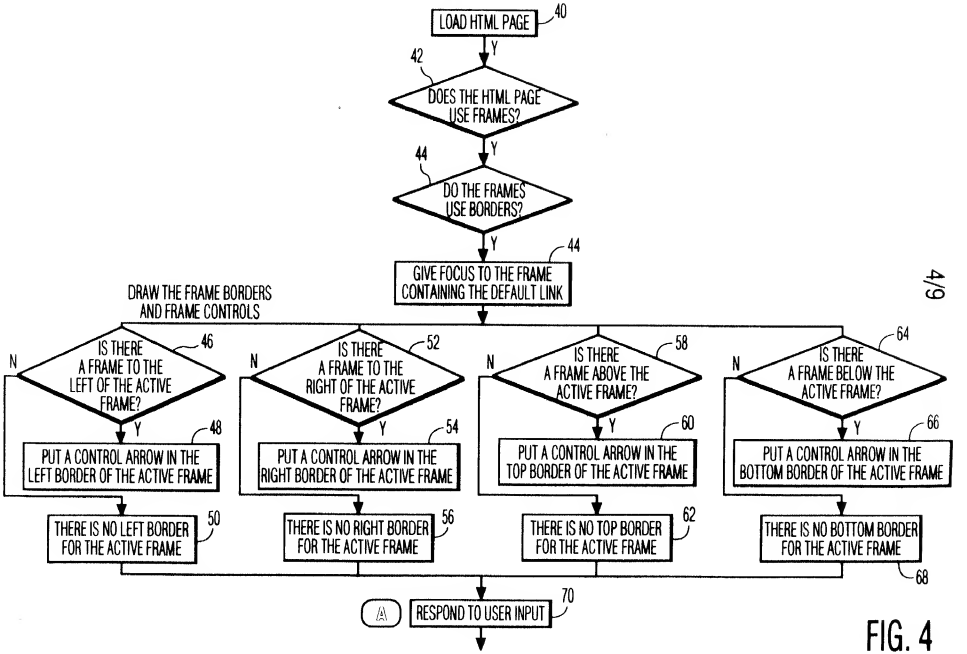
LOAD HTML PAGE
40
Y
42
DOES THE HTML PAGE USE FRAMES?
Y
44
DO THE FRAMES USE BORDERS?
Y
44
GIVE FOCUS TO THE FRAME CONTAINING THE DEFAULT LINK
DRAW THE FRAME BORDERS AND FRAME CONTROLS
IS THERE A FRAME TO THE LEFT OF THE ACTIVE FRAME?
46
N
Y
PUT A CONTROL ARROW IN THE LEFT BORDER OF THE ACTIVE FRAME
48
THERE IS NO LEFT BORDER FOR THE ACTIVE FRAME
50
IS THERE A FRAME TO THE RIGHT OF THE ACTIVE FRAME?
52
N
Y
PUT A CONTROL ARROW IN THE RIGHT BORDER OF THE ACTIVE FRAME
54
THERE IS NO RIGHT BORDER FOR THE ACTIVE FRAME
56
IS THERE A FRAME ABOVE THE ACTIVE FRAME?
58
N
Y
PUT A CONTROL ARROW IN THE TOP BORDER OF THE ACTIVE FRAME
60
THERE IS NO TOP BORDER FOR THE ACTIVE FRAME
62
IS THERE A FRAME BELOW THE ACTIVE FRAME?
64
N
Y
PUT A CONTROL ARROW IN THE BOTTOM BORDER OF THE ACTIVE FRAME
66
THERE IS NO BOTTOM BORDER FOR THE ACTIVE FRAME
68
A
RESPOND TO USER INPUT
70

FIG. 4

70
A
72
PRESS THE UP ARROW ON THE REMOTE CONTROL OR KEYBOARD
74
IS THE HIGHLIGHT ON A LINK OR A CONTROL ARROW?
LINK
76
IS THERE A VISIBLE LINK, IN THE SAME FRAME, ABOVE THE ACTIVE LINK
YES
78
MOVE THE FOCUS TO THE NEXT VISIBLE LINK ABOVE
NO
80
MOVE THE HIGHLIGHT TO THE CONTROL ARROW IN THE TOP BORDER
CONTROL ARROW
82
DO THE FRAME CONTENTS CONTINUE BEYOND THE TOP BORDER OF THE FRAME?
NO
89
MOVE THE FOCUS TO THE DEFAULT LINK IN THE NEXT FRAME ABOVE
YES
86
SCROLL THE FRAME CONTENTS ABOVE
RETURN TO
70
A

FIG. 5

70
A
90
PRESS THE DOWN ARROW ON THE REMOTE CONTROL OR KEYBOARD
92
IS THE HIGHLIGHT ON A LINK OR A CONTROL ARROW?
LINK
94
IS THERE A VISIBLE LINK, IN THE SAME FRAME, BELOW THE ACTIVE LINK
YES
96
MOVE THE FOCUS TO THE NEXT VISIBLE LINK BELOW
NO
98
MOVE THE HIGHLIGHT TO THE CONTROL ARROW IN THE BOTTOM BORDER
CONTROL ARROW
100
DO THE FRAME CONTENTS CONTINUE BEYOND THE BOTTOM BORDER OF THE FRAME?
NO
102
MOVE THE FOCUS TO THE DEFAULT LINK IN THE NEXT FRAME BELOW
YES
109
SCROLL THE FRAME CONTENTS BELOW
RETURN TO
70
A

FIG. 6

70
A
106
PRESS THE RIGHT ARROW ON THE REMOTE CONTROL OR KEYBOARD
108
IS THE HIGHLIGHT ON A LINK OR A CONTROL ARROW?
LINK
110
IS THERE A VISIBLE LINK, IN THE SAME FRAME, TO THE RIGHT OF THE ACTIVE LINK
YES
112
MOVE THE FOCUS TO THE NEXT VISIBLE LINK TO THE RIGHT
NO
119
MOVE THE HIGHLIGHT TO THE CONTROL ARROW IN THE RIGHT BORDER
CONTROL ARROW
116
DO THE FRAME CONTENTS CONTINUE BEYOND THE RIGHT BORDER OF THE FRAME?
NO
118
MOVE THE FOCUS TO THE DEFAULT LINK IN THE NEXT FRAME TO THE RIGHT
YES
120
SCROLL THE FRAME CONTENTS TO THE RIGHT
70
A
RETURN TO

FIG. 7

70
A
122
PRESS THE LEFT ARROW ON THE REMOTE CONTROL OR KEYBOARD
124
IS THE HIGHLIGHT ON A LINK OR A CONTROL ARROW?
LINK
126
IS THERE A VISIBLE LINK, IN THE SAME FRAME, TO THE LEFT OF THE ACTIVE LINK
YES
128
MOVE THE FOCUS TO THE NEXT VISIBLE LINK TO THE LEFT
NO
130
MOVE THE HIGHLIGHT TO THE CONTROL ARROW IN THE LEFT BORDER
CONTROL ARROW
132
DO THE FRAME CONTENTS CONTINUE BEYOND THE LEFT BORDER OF THE FRAME?
NO
134
MOVE THE FOCUS TO THE DEFAULT LINK IN THE NEXT FRAME TO THE LEFT
YES
136
SCROLL THE FRAME CONTENTS TO THE LEFT
RETURN TO
70
A

FIG. 8

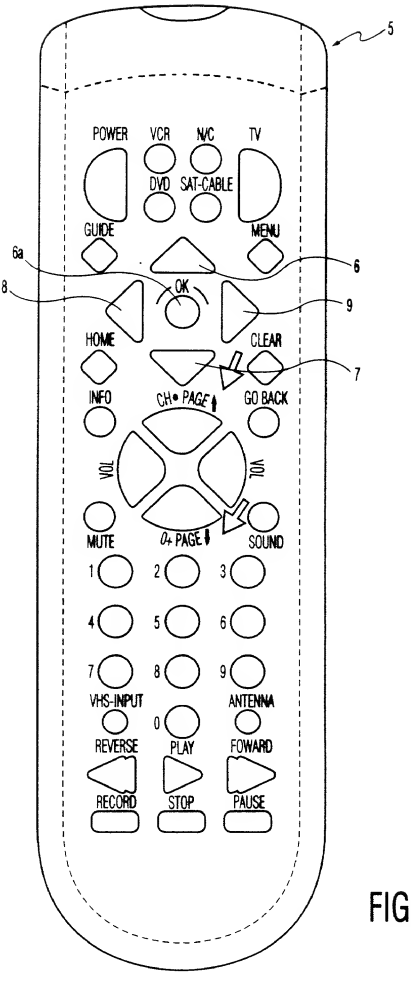
5
POWER
VCR
N/C
TV
DVD
SAT-CABLE
GUIDE
MENU
6a
6
OK
8
9
HOME
CLEAR
7
INFO
CH• PAGE
GO BACK
VOL
VOL
MUTE
PAGE
SOUND
1
2
3
4
5
6
7
8
9
VHS-INPUT
0
ANTENNA
REVERSE
PLAY
FOWARD
RECORD
STOP
PAUSE

FIG. 9

Please type a plus sign (+) inside this box → [+]

PTO/SB/01 (12-97)
Approved for use through 9/30/00. OMB 0651-0032
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

☐ Declaration Submitted with Initial Filing

OR

☒ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

Attorney Docket Number	RCA88696
First Named Inventor	Sheila Renee Crosby
COMPLETE IF KNOWN	
Application Number	09/486,545
Filing Date	February 28, 2000
Group Art Unit	
Examiner Name	

As a below named inventor, I hereby declare

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

SYSTEM AND METHOD FOR NAVIGATING WITHIN A DISPLAY HAVING DIFFERENT DISPLAY SECTIONS

(Title of the Invention)

the specification of which

☐ is attached hereto

OR

☒ was filed on (MM/DD/YYYY) February 28, 2000 as United States Application Number or PCT International Application Number 09/486,545 and was amended on (MM/DD/YYYY) _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	Certified Copy Attached? NO
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)
60/056,691	08/28/97

☐ Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

Please type a plus sign (+) inside this box → +

PTO/SB/02A (3-97)
Approved for use through 9/30/98. OMB 0651-0032
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

DECLARATION

ADDITIONAL INVENTOR(S)
Supplemental Sheet
Page 1 of 1

Name of Additional Joint Inventor, if any:	☐ A petition has been filed for this unsigned inventor
Given Name (first and middle [if any])	Family Name or Surname
Steven Todd	Barlow

Inventor's Signature						Date	
Residence: City	Raleigh	State	NC	Country	USA	Citizenship	USA
Post Office Address	5713 Dutch Creek Drive						
Post Office Address							
City	Raleigh	State	NC	ZIP	27606	Country	USA

Name of Additional Joint Inventor, if any:	☐ A petition has been filed for this unsigned inventor
Given Name (first and middle [if any])	Family Name or Surname
Robert John	Strong

Inventor's Signature	Robert John Strong					Date	4-11-00
Residence: City	Arlington HEIGHTS RJS	State	IL	Country	USA	Citizenship	USA
Post Office Address	~~200 North Arlington Heights Road~~ 409N EVERGREEN AVE #1 RJS						
Post Office Address							
City	Arlington	State	IL	ZIP	60004	Country	USA

Name of Additional Joint Inventor, if any:	☐ A petition has been filed for this unsigned inventor
Given Name (first and middle [if any])	Family Name or Surname

Inventor's Signature						Date	
Residence: City		State		Country		Citizenship	
Post Office Address							
Post Office Address							
City		State		ZIP		Country	

Burden Hour Statement: This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → [+]

PTO/SB/01 (12-97)
Approved for use through 9/30/00. OMB 0651-0032
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

DECLARATION — Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number *(if applicable)*
PCT/US98/17570	08/25/98	

☐ Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: ☐ Customer Number [ ] → *Place Customer Number Bar Code Label here*
OR
☒ Registered practitioner(s) name/registration number listed below

Name	Registration Number	Name	Registration Number
TRIPOLI, Joseph S.	26,040		
SHEDD, Robert D.	36,269		
LIAO, Frank Y.	40.065		

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.

Direct all correspondence to: ☐ Customer Number or Bar Code Label [ ] *OR* ☒ Correspondence address below

Name	JOSEPH S. TRIPOLI - PATENT OPERATIONS				
Address	PO BOX 5312 - 2 INDEPENDENCE WAY				
Address					
City	PRINCETON	State	NJ	ZIP	08543
Country	USA	Telephone	609-734-9400	Fax	609-734-9700

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor: ☐ A petition has been filed for this unsigned inventor

Given Name (first and middle [if any])	Family Name or Surname
Sheila Renee	Crosby

Inventor's Signature	Sheila Renee Crosby					Date	8/24/00
Residence: City	~~Crystal Lake~~ Libertyville	State	IL	Country	USA	Citizenship	USA
Post Office Address	~~325 Hampton Court~~ 1600 ERIC LANE						
Post Office Address							
City	~~LIBERTYVILLE Crystal Lake~~	State	IL	ZIP	~~60012~~ 60048	Country	USA

☒ Additional Inventors are being named on the 1 supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto

Please type a plus sign (+) inside this box → [+]

PTO/SB/02A (3-97)
Approved for use through 9/30/98. OMB 0651-0032
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

DECLARATION

ADDITIONAL INVENTOR(S)
Supplemental Sheet
Page 1 of 1

Name of Additional Joint Inventor, if any:	☐ A petition has been filed for this unsigned inventor

Given Name (first and middle [if any])	Family Name or Surname
Steven Todd	Barlow

Inventor's Signature						Date	3-28-2000
Residence: City	Raleigh	State	NC	Country	USA	Citizenship	USA
Post Office Address	5713 Dutch Creek Drive						
Post Office Address							
City	Raleigh	State	NC	ZIP	27606	Country	USA

Name of Additional Joint Inventor, if any:	☐ A petition has been filed for this unsigned inventor

Given Name (first and middle [if any])	Family Name or Surname
Robert John	Strong

Inventor's Signature						Date	
Residence: City	Arlington	State	IL	Country	USA	Citizenship	USA
Post Office Address	200 North Arlington Heights Road						
Post Office Address							
City	Arlington	State	IL	ZIP	60004	Country	USA

Name of Additional Joint Inventor, if any:	☐ A petition has been filed for this unsigned inventor

Given Name (first and middle [if any])	Family Name or Surname

Inventor's Signature						Date	
Residence: City		State		Country		Citizenship	
Post Office Address							
Post Office Address							
City		State		ZIP		Country	

Burden Hour Statement: This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.